

REMARKS/ARGUMENTS

The amended listing of claims and the following arguments are presented generally to impart precision to the claims, by particularly pointing out and distinctly claiming the subject matter. The pending claims are supported by the specification. No new matter is added.

Applicant respectfully submits that the currently pending claims are patentable over the cited references.

Previously Submitted Information Disclosure Statement (IDS)

The Office Action indicates that copies of the non-patent documents cited in the Information Disclosure Statement (IDS) filed April 3, 2002, received by USPTO on April 8, 2002, have not been received by the examiner and therefore have not been considered by the examiner.

Applicant respectfully submits that the postcard filed with the IDS and returned from the USPTO indicates that the filed copies of the non-patent documents at least reached USPTO on April 8, 2002. A copy of the returned postcard is attached to the present response.

For the convenience of the examiner, copies of the non-patent documents are resubmitted. Since copies of the non-patent documents were filed with the IDS on April 3, 2002 and received by USPTO on April 8, 2002, the resubmitted copies of the non-patent documents should be considered as part of the IDS filed on April 3, 2002, rather than a new IDS filed with the present response. Consideration of the IDS filed on April 3, 2002 is respectfully requested.

Claim Objections

Claims 2-3 and 16-18 were objected to for informalities. Claims 2 and 16 are currently amended to remove the informalities.

Allowable Subject Matter

Applicant thanks the examiner for pointing out the allowable subject matter in claims 2-3, 15 and 18. Applicant respectfully requests the reconsideration of the rejected claims and the new claims.

35 U.S.C. §102(a) Rejections

Examiner rejected claim 1 under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 6,182,282 (hereinafter “Stoodley”). Applicant respectfully submits that pending claims are patentable over the cited references, since the cited references do not show each and every aspect of the pending claims.

For example, claim 1 recites:

1. (Currently Amended) A data structure comprising:
a table for virtual method dispatch and type identification, wherein the table includes a plurality of pointers, wherein the plurality of pointers point to a plurality of classes and wherein the plurality of classes include at least one unified type hierarchy to store a plurality of names from a plurality of programming languages for one implementation.

Stoodley does not show a unified type hierarchy to store a plurality of names from a plurality of programming languages for one implementation. Thus, the type hierarchy of Stoodley is different from what is recited in the claim. Thus, claim 1 is patentable over Stoodley.

35 U.S.C. §102(3) Rejections

Examiner rejected claims 4-14, 16 and 17 under 35 U.S.C. §103(a) as being unpatentable over “Stoodley”. Applicant respectfully disagrees.

For example, claim 9 recites:

9. (Original) A method of identifying equivalent data structures comprising:
receiving a plurality of data structures, wherein the each one of the plurality of data structures are from a different one of a plurality of programming languages;
comparing the implementation of each one of the plurality of data structures; and
identifying at least two of the plurality of data structures that have identical implementations.

In rejection claim 9, the Office Action took the position that “determining inherited virtual functions” corresponds to “comparing the implementation of each one of the plurality of data structures”. However, a person skilled in the art understands that the inheritance relation is specified by the programmer, not determined from “comparing the implementation …”. Thus, there is no “*identifying* at least two of the plurality of data structures that have identical implementations” in the method of Stoodley. Thus, the method of Stoodley is substantially different from the subject matter of claim 9.

Independent claims 11, 14 and 16 recite similarly limitations as discussed for claim 9. Thus, claims 9, 11, 14, 16 and their dependent claims are patentable over Stoodley.

Further, claim 4 recites:

4. (Original) The data structure of claim 1 wherein the unified type hierarchy includes:
a data structure that is recognizable by a first programming language and a second programming language.

Col. 1, lines 8-10, of Stoodley shows that “the classes can be compiled using different virtual function table structures”. There is no indication that the classes are programmed in different programming languages. Col. 8, line 66 – Col 9, line 1, of Stoodley shows different classes

compiled by an old compiler and a new compiler. From this description of Stoodley, one understands that different classes are programmed in the same programming language and compiled with different compilers. Col. 6, lines 57-62, of Stoodley shows

“The present invention will be described in terms of the C++ programming language. It will be apparent to those skilled in the art that the method and system of the present invention is not so limited and can be applied to other object-oriented programming languages and compilers which employ virtual function table structures, or the like.” (Col. 6, lines 57-62, of Stoodley)

Further, Col. 4, lines 3-7, of Stoodley shows “As a result, existing compiler developers must choose between developing compilers which break backwards compatibility and compilers which produces uncompetitively slow and/or large code ...”.

Thus, from the description of Stoodley, one understands the technique of Stoodley is for the compilation of programs of one same programming language, such as C++, not for the mixture of programs from different programming languages.

Although Stoodley mentioned different different programming languages, such as C++, Java, CFront, it is clear that the technique of Stoodley is for compiling programs of one same programming language, which may be one of these programming languages. There is no indication compiling programs of different programming languages. Further, there is no reasonable expectation of success of mixing compilers of different programming languages.

Further, Stoodley relates to the compilation of machine executable instructions from of a higher level object-oriented language (see, e.g., Col. 4, lines 22-25, Stoodley). There is no indication that the corresponding data structure of Stoodley is *recognizable* by multiple programming languages, even if modules from different programming languages could be put together.

In one embodiment of the present invention, different names are provided for the reflection libraries of different programming languages. See, for example, paragraph [0023] of the present application.

Thus, claim 4 is patentable over Stoodley.

Similarly, claim 8 recites the limitation of “the data structure is *recognizable* in each one of the plurality of programming languages”.

The remaining claims depend from at least one of the independent claims discussed above, and therefore include at least some of the distinguishing claim limitations as discussed above. As a result, the remaining claims are also patentable.

CONCLUSION

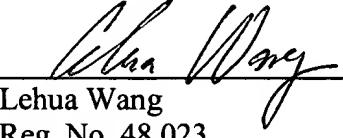
Applicant respectfully submits that the pending claims are patentable over the cited references. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call at (408) 720-8300.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, Applicant hereby requests such extension.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

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Lehua Wang
Reg. No. 48,023

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025-1026
(408) 720-8300